50 Ways to Reduce Your Energy Consumption

Roxie Rodgers Dinstel
Tanana District Extension Home Economist
If you don’t want to buy a more efficient car, try driving more efficiently.
• Keep engine properly tuned—4% to 40%
• Check and replace air filters—up to 10%
• Keep tires properly inflated—3.3%
• Use the recommended grade of oil—1-2%
• Use the octane level recommended
Driving

- Observe speed limit
- Stop aggressive driving
- Use cruise control when appropriate
- Remove excess weight
- Avoid packing on top of car
- Drive at a steady pace
Idling

- Avoid unnecessary idling
- Pay attention to the stoplights

For really painstaking advice on reducing idle time, refer to RunABot.com
Planning

- Combine errands
- Buy gas during the coolest hours
- Avoid traffic, go at less congested times
Myth vs. Reality

- Aggressive driving vs. moderate driving
- Lower speeds save gas
- Use Cruise control
- A/C on, windows up vs. A/C off, windows down
- Check your tire pressure

Tests by Edmunds.com
Make Other Choices

- Don’t go
- Walk, bike, take a bus, carpool
Energy Conservation Facts

- Though accounting for only 5 percent of the world's population, Americans consume 26 percent of the world's energy. *(American Almanac)*
- In 1997, U.S. residents consumed an average of 12,133 kilowatt-hours of electricity each; almost nine times greater than the average for the rest of the world. *(Grist Magazine)*
- Worldwide, some 2 billion people are currently without electricity.
- Total U.S. residential energy consumption is projected to increase 17 percent from 1995 - 2015. *(U.S. Energy Information Administration)*
- World energy consumption is expected to increase 40% to 50% by the year 2010, and the global mix of fuels--renewables (18%), nuclear (4%), and fossil (78%)--is projected to remain substantially the same as today; thus global carbon dioxide emissions would also increase 50% to 60%.
- Among industrialized and developing countries, Canada consumes per capita the most energy in the world, the United States ranks second, and Italy consumes the least among industrialized countries.
- America uses about 15 times more energy per person than does the typical developing country.
- Residential appliances, including heating and cooling equipment and water heaters, consume 90% of all energy used in the U.S. residential sector.
- The United States spends about $440 billion annually for energy. Energy costs U.S. consumers $200 billion and U.S. manufacturers $100 billion annually.
How is energy used in a typical household?

- Heating/cooling
- Water heater
- Refrigerator
- Dishwasher
- Washer/dryer
- Computer
- TV, VCR, DVD
- Lighting
- Other

[Pie chart showing energy usage distribution]
As a Share of Earnings?

- 7% of expenditures from 1990-2004
- 11% in the early years 1980s
- 9% throughout the 80s
- Estimated in 2005 at 8.5%
- Falls disproportionally on the poor, working poor, and the elderly
- As income increases, the share of energy cost go down
Utilities

- Electricity
- Fuel Oil
- Natural Gas
- Water
Water

- In 1900, we used on average about 5 gallons of water per day
- Now almost 70 gallons per day
Where does water go?

- Toilet: 18.5
- Clothes washer: 15.0
- Shower: 11.6
- Faucets: 10.9
- Leaks: 9.5
- Other: 1.6
- Bath: 1.2
- Dishwasher: 1.0

TOTAL: 69.3 per person per day
Toilets use the most water, but this is lower since low flush toilets 1.6 gallons vs. 5 or 6 gallons.
Water Saving Toilets

- Low flush (1.6 gallons vs. 5 to 6 gallons)
- Air assisted units
- Composting toilets
- Dual flush toilets
Clothes Washing

Regular washer uses 40-50 gallons per load

- Only wash full loads
- For most efficiency, warm water wash, cold water rinse
- Check high efficiency, front loading washers
Showers

Showers are always more efficient than baths
Switch to a low volume showerhead
• Restrict water’s flow through showerhead from 3-8 to 2 gallons per minute
• Water temperature may need to be slightly higher because the smaller droplets cool
Replacing will save 1000 gallons of water per year per person in your home.
Faucets

Most faucets deliver from 3 – 7 gal per minute

Can save 2000 gallons of water per year per person
Leaks—

Fix them!
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-flush toilets (1.6 gpf)</td>
<td>5.1 flushes/day</td>
<td>20.4 gal/person</td>
<td>8.2 gal/person</td>
<td>12.2</td>
<td>4,453</td>
<td>0</td>
</tr>
<tr>
<td>Low vol. Showerhead (2.5 gpm)</td>
<td>5.3 min/day</td>
<td>15.9</td>
<td>13.3</td>
<td>2.6</td>
<td>949</td>
<td>123</td>
</tr>
<tr>
<td>Low-vol. Faucet (1.5 gpm)</td>
<td>4 minutes/day</td>
<td>12</td>
<td>6</td>
<td>6</td>
<td>2,190</td>
<td>125</td>
</tr>
<tr>
<td>Front loading Washer (27 gpl)</td>
<td>.37 loads/day</td>
<td>18.9</td>
<td>10</td>
<td>8.9</td>
<td>3,249</td>
<td>316</td>
</tr>
<tr>
<td>Water Eff. Dishwasher (7 gpl)</td>
<td>.1 loads/day</td>
<td>1.1</td>
<td>0.7</td>
<td>0.4</td>
<td>146</td>
<td>36</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>68.3</strong></td>
<td><strong>38.2</strong></td>
<td><strong>30.1</strong></td>
<td><strong>10,987</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>
Outdoor water use in the United States averages about 32 gallons per person per day.
Other Water Conservation Tips

- Dishwashing by hand or by machine?
- Turn the water off
Simple ideas on hot water heaters

Once a month

• Clean around water heater
• Look for leaks
• Drain a gallon or two from the heater

Once a year

• Check temperature
• Drain and flush
Resources

- Cleaner and Greener Environment Program Home
- Consumer Guide to Green Energy Choices
- Energy Efficiency and Renewable Energy Dept.
- Energy Savers
- Energy Advisor
- Energy Star
Home Management

- Replace appliances
- Warm wash, cold rinse in washer
- Keep lint trap clean on dryer
- Do full loads in dishwasher or washer
- Turn off the heat dry in dishwasher
- Correct temperature on refrigerator and freezer
- Unplug unnecessary appliances
- Use correct appliance for cooking
More management tips

• Use the right sized pot on stove
• Double up on cooking duties
• Use covered pan or kettle to boil water
• Keep range burners clean and shiny
• Check oven door gasket
• Turn oven off 5 minutes before time
• Use a pressure cooker
More Management Tips

- Cover windows at dusk
- Turn hot water heater from 145° to 120°
- Clean is more efficient
- Don’t over dry clothes
- Cover and wrap food in refrigerator
- Check seal around refrigerator door
- Landscape your home
More management tips

• Use lap top rather than a desk top
• Put computer, fax, other equipment on a surge protector and turn it off when not in use
• If you are out of a room more than 15 minutes, turn the light off
Once again—Alaska is #1

In energy consumption per capita